

DETAILED ACTION

Claim Objections

Claim 17 is objected to because of the following informalities: The limitation "between 1:0.6 e 1:1.5" should include the word "and" between the ratios instead of "e". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 14, and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 14, and 20-21 are indefinite as to whether the limitations following the word "preferably" are required by the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Reichert US 2004/0028922.

Reichert teaches a process of making capacitors having an anode based on niobium oxide (Abstract). To form the capacitors Reichart uses a method of producing NbO comprising: reacting NbO₅ or NbO₂ with a stoichiometric quantity of niobium metal, in the presence of hydrogen (Paragraph 37, Example 3). The reaction temperature is from 950 to 1600 degrees C.

The instantly claimed reaction step two is equivalent to Reichart's process of making NbO by mixing NbO₂ with Nb metal powder and subsequently heating the mixture in a stream of Hydrogen at temperatures from 950 to 1600 degrees C (Paragraph 37). Instantly claimed reaction step one is equivalent to Reichart's teaching that NbO₂ may be formed by heat treating Nb₂O₅ at 1450 degrees C in the presence of Hydrogen for 4 hours (Example 1 Paragraph 49).

The product produced by Reichart has a BET between 3.5 and 4.5 m²/g and a capacitance between 100000 and 119450 CV/g (See Table 6, Example 4).

Claims 1-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fife US 6416730.

Fife teaches a process of producing NbO comprising: reacting NbO₅ or NbO₂ with a stoichiometric quantity of niobium metal, in the presence of hydrogen (Column 3 Lines 60-62). The reaction temperature is from 800 to 1900 degrees C for about 5 to 100 minutes (Column Lines 35-50). A 1:1 ratio of niobium metal to oxygen may be used in the process (Column 4 Lines 15-25).

The product produced by Fife has a BET between about 5 and 30 m²/g and a capacitance between 100000 and 200000 CV/g (Column 2 Lines 45-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES A. FIORITO whose telephone number is (571)272-7426. The examiner can normally be reached on 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James A Fiorito/
Examiner, Art Unit 1793

/Wayne Langel/
Primary Examiner, Art Unit 1793